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Energy Freedom Program: 2010 Status Report

Funding bioenergy development in Washington State

December 1, 2010
Report to the Legislature
Rogers Weed, Director

Produced in cooperation
with the Washington State
Department of Agriculture



ACKNOWLEDGEMENTS

Per RCW 43.235.060, the Director of the Washington State Department of Commerce (Commerce) is to report on the status of the Energy Freedom Program to the Washington State Legislature and Office of the Governor by December 1 of each even-numbered year. This report includes information on the projects funded, their status, and the environmental, energy savings and job creation benefits they provide.

Given their shared history of program administration, Commerce and the Washington State Department of Agriculture (WSDA) have closely collaborated in the preparation of this report.

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This report is also available on the Commerce website: commerce.wa.gov
Annual progress reports are available on the WSDA website: agr.wa.gov/bioenergy

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PROGRAM OVERVIEW

The Energy Freedom Program was established in 2006 under E3SHB 2939 to “promote public research and development in bioenergy, and to stimulate the construction of facilities in Washington to generate energy from farm sources or convert organic matter into fuels.” (RCW 43.325.001)

The program provides financial and technical assistance to cities, counties, ports, special purpose districts and other political subdivisions of the state, as well as federally recognized Tribes and state institutions of higher education, through the Energy Freedom Account. Initial administrative duties were assigned to the Washington State Department of Agriculture (WSDA).

Under the program, a project may receive up to \$5 million as long as the support constitutes no more than 50 percent of total project costs. Criteria for selection include projects which:

- Convert in-state farm products, wastes, cellulose, or biogas into electricity, biofuel or other coproducts
- Demonstrate technical feasibility and assist in moving commercially viable projects to market
- Increase energy independence or diversity
- Produce long-term economic benefits, including new jobs, job retention or higher incomes
- Provide an option for the state to purchase a portion of the fuel or feedstock produced by the project

In 2007, E2SHB 1303 transferred program administration from WSDA to the Washington State Department of Community, Trade & Economic Development (CTED), now Department of Commerce (Commerce), effective July 1, 2007. Any financial agreement in place at that time continues to be serviced by WSDA.

E2SHB 1303 also established the Green Energy Incentive Account to support development of alternative fuel refueling infrastructure along Interstate highway corridors throughout the state. No appropriation has been provided to date for the Green Energy Incentive Account.

In 2009, ESHB 2289 altered the scope of the original program by adding a third account, the Energy Recovery Act Account, to capture federal American Recovery & Reinvestment Act (ARRA) funds. The legislation also greatly expanded the roster of eligible projects and applicants.

This report only addresses the funding and projects associated with state-level funding under the original Energy Freedom Account. Reports on the disposition of federal ARRA funds are available at: www.energy.wsu.edu/EnergyLibrary/RecoveryActFunding.aspx.

Since inception, the Energy Freedom Program has provided nearly \$18 million in grants and low-interest loans to local public-private partnerships for:

- Oilseed crushing and biodiesel production in Yakima, Grant, Lincoln and Snohomish counties
- Wood-fired boilers and steam turbines in Grays Harbor and Clallam counties
- Anaerobic digestion of organic wastes for biogas power in Yakima County

Together, these projects have:

- Created 55 new jobs (a total of 100+ new jobs once all projects are operational)
- Provided clean power for public facilities and over 1,000 homes
- Leveraged more than \$107 million in additional public and private investment
- Improved air and water quality

LOOKING FORWARD

Since authority for the program was conveyed from WSDA to Commerce in 2007, no additional funding has been made available through the Energy Freedom Account or Green Energy Incentive Account. All returned funds and loan repayments have been redirected for state budget deficit relief. At present, some \$10 million of the original FY 2007 appropriation has yet to be repaid.

Should funding become available through the Energy Freedom Account in the future, Commerce will work closely with WSDA and other agencies and public entities with bioenergy expertise to assess the technical and economic feasibility of proposals, and actively support those most likely to succeed.

PROGRAM TIMELINE

2006

- The Energy Freedom Program is established under E3SHB 2939. The Legislature appropriates \$23 million, including \$17 million to WSDA for low-interest loans, and \$6 million to CTED for a designated grant.
- Eight public-private partnerships are designated by the Legislature and/or selected through WSDA's competitive process to receive loan awards.
- WSDA structures the loan program to provide 10-year terms and a 1 percent interest rate. Repayment can be deferred up to 24 months from date of funding unless the project generates revenue sooner.

2007

- Under E2SHB 1303, administrative responsibility for the program is transferred to CTED effective July 1, 2007. WSDA continues to service loan agreements it executed for five projects. Allowed technologies expand to include biogas and cellulosic feedstocks.
- Green Energy Incentive Account is established as a subaccount of the Energy Freedom Program to support development of alternative fuel refueling infrastructure along Interstate highway corridors throughout the state. No new appropriation is provided to either account.
- The Legislature amends the original awards in response to the changing needs of the projects. Two of the projects choose not to proceed, two projects have their awards adjusted, and one project changes its public partner.
- The remaining \$2.5 million is designated for a bioenergy project outside the Energy Freedom account, reducing overall revolving funds from \$17 million to \$14.5 million.
- In late 2007, one of the loan recipients opts to use other funds and withdraws from the program.

2008

- Funds returned in 2007 are designated by the Legislature as grants for two new bioenergy projects, reducing total revolving funds from \$14.5 million to \$13 million.
- A fourth loan recipient opts not to move forward and returns its award.
- By the end of 2008, all four remaining loan recipients begin a regular annual or semi-annual repayment schedule extending through 2016-17.

2009

- Under ESHB 2289, the Energy Recovery Act Account is established to capture federal ARRA funds.
- Eligible projects are expanded to include the full spectrum of renewable energy generation technologies, energy efficiency measures, and smart grid and energy storage systems.
- Eligible applicants expanded to include 501(c)(3) groups, private entities and state entities.

2010

- WSDA continues to administer loan agreements initially executed before July 1, 2007 for four projects.

Energy Freedom Awards: 2006-2008

(Rounded to closest \$1,000)

Public Recipient / Private Partner	Location	Bioenergy Production	Designated Loans	Competitive Loans	Grants	Status 2010
Port of Warden Home Grown Oil LLC	Warden Grant County	Oilseed Crushing & Biodiesel Processing	\$2,500,000	\$796,000		In development
Odessa Public Development Authority Inland Empire Oilseeds LLC	Odessa Lincoln County	Oilseed Crushing & Biodiesel Processing	\$3,500,000	\$848,000		Operating
South Yakima Conservation District George DeRuyter & Sons Farms	Outlook Yakima County	Biogas Power & Coproducts	\$1,973,000			Operating
Washington Department of Agriculture Natural Selection Farms	Sunnyside Yakima County	Oilseed Crushing	\$750,000			Operating
Spokane County Conservation District Palouse Bio LLC	Spokane Spokane County	Oilseed Crushing & Biodiesel Processing	(\$1,779,000)	(\$854,000)		Cancelled 2008, funds returned
Tulalip Tribes Qualco Energy Corp	Monroe Snohomish County	Biogas Power & Coproducts		(\$1,500,000)		Declined 2007, no loan issued
Port of Whitman County Western Industrial Biofuels	Colfax Whitman County	Oilseed Crushing & Biodiesel Processing		(\$779,000)		Cancelled 2006, no loan issued
Port of Columbia Pacific Agrienergy LLC	Dayton Columbia County	Oilseed Crushing & Biodiesel Processing	(\$2,500,000)			Cancelled 2006, no loan issued
Grays Harbor PUD Grays Harbor Paper LC	Hoquiam Grays Harbor County	Wood-Fired Heat & Power			\$6,000,000	Operating
Quillayute Valley School District TBD	Forks Clallam County	Wood-Fired Heat & Power			\$1,000,000	Operating
Snohomish County Wolfkill Whole Energy LLC	Cathcart Snohomish County	Oilseed Crushing & Biodiesel Processing			\$500,000	Operating
Total Awards \$17,867,000			\$8,723,000	\$1,644,000	\$7,500,000	

ENERGY FREEDOM GRANTS

Grays Harbor PUD – Grays Harbor Paper



Employment: 25 new jobs, total of 38 new jobs once fully operational

Environmental Benefits: Use of woody material left by forest practices, storm debris removed from landfills, renewable power

Production: Up to 18 MW power

Under the original FY 2007 appropriation, a \$6 million grant was designated via CTED to Grays Harbor Public Utility District to purchase and install a 7.5 megawatt turbine at the Grays Harbor Paper (GHP) mill in Hoquiam. The turbine, driven by one of three steam boilers heated by wood waste, increased the mill's potential power output to 18 megawatts.

This \$9 million upgrade enabled GHP to generate sufficient power for papermaking, and provided the opportunity to realize additional revenue from power sales to offset swings in the paper market.

While the mill continues to increase power generation (3 MW in 2009, 6 MW in 2010), competition for woody biomass, limitations in federal incentive programs, and the lack of a long-term power purchase agreement have made year-round operations economically unattractive. A stable power purchase agreement would catalyze mill investment in boiler upgrades and fuel handling systems needed to operate at full capacity.

The woody biomass needed for this project benefits a host of forest product processors, loggers, truck drivers and other positions in the timber industry. GHP is a leader in development of new densification technologies that reduce the cost of transporting woody biomass by 60-90 percent.

Quillayute Valley School District



Employment: One new job

Environmental Benefits: Heating oil replaced by mill and harvest waste

Production: Area heating

Quillayute Valley Schools, in partnership with Clallam County Economic Development Council, The city of Forks, Port of Port Angeles and numerous private businesses, tapped a series of state-funded planning grants to explore biomass energy opportunities in the Forks area.

In FY 2009 the District received a \$1 million designated grant via CTED to purchase and install a wood-fired boiler for steam heat at Forks Middle School and High School, and explore use of microturbines or a heat recovery system to generate power. An

assessment of power generation technologies determined it was not economically feasible to include this option at such a small facility. The facility became operational in October 2010.

Snohomish County – Wolfkill Whole Energy



Employment: One new job, new opportunities for local agricultural producers

Environmental Benefits: Efficient value-added use of landfill gas, diesel displacement in county fleets

Production: 240,000 gal/yr biodiesel

Snohomish County, Washington State University and local growers began to explore oilseed crops in 2005. The Snohomish County Farm-Grown Fuel Project was launched in 2007 with the goal of growing oilseeds and producing biodiesel for use in county diesel vehicles.

With investments of \$409,000 from the county and \$344,000 from US Department of Energy, a seed dryer was installed at the former Cathcart Landfill near Mill Creek. Roughly one-quarter of the captured biomass is used to fuel the dryer, a more efficient and productive use of the biogas than flaring.

In FY 2009, the Legislature awarded a \$500,000 designated grant via CTED to purchase and install an oilseed crusher. Once the seeds are crushed, the oil can be processed into biodiesel and the meal fed to local livestock.

Due to economic conditions, a steep decline in petroleum prices, and changes in federal biofuel policy, the county was unable to secure an outside operator for the facility in 2010. However, the county did complete a new business plan and was able to use residual Energy Freedom grant funds to construct an enclosure to protect equipment and provide for year-round processing.

Once the new plan is operational, the project hopes to have 2,500 acres of oilseeds in production and be refining 240,000 gallons of biodiesel each year, enough to provide a 40 percent biodiesel blend for the county's diesel fleets.

ENERGY FREEDOM LOANS

WSDA currently supports and administers the state's responsibilities for Energy Freedom loans provided for four bioenergy facilities, three operating and one planned. All four are in eastern Washington and include:

- An anaerobic digester at a large dairy farm in Outlook
- An oilseed crushing facility at a farm in the Sunnyside-area
- An oilseed processing and biodiesel production facility in Odessa
- A planned oilseed processing/biodiesel production facility in Warden

Between July 1, 2006, and June 30, 2007, WSDA signed agreements with four local agencies to provide \$10.4 million in low-interest loans for these bioenergy facilities. The agencies included two ports, a public development authority, and a conservation district. Each of these local agencies received loan money designated in the state capital budget for a specific bioenergy project, with two of the agencies awarded additional monies through a competitive process. WSDA assumed the public partner duties of the Port of Sunnyside after the initial loan administration phase was completed in 2008.

The loan documents prepared by WSDA are project-specific and typically consist of a loan agreement, promissory notes, a trust indenture, lease or use agreement between the local jurisdiction and its private partner, and assignments for security purposes. Loan procedures and documentation followed standard banking procedures and required verification of how loans will be repaid and how they will be collateralized in the event of a default. The program allows for up to 3 percent of the total loan amount to be used for administrative expenses directly related to the project. WSDA elected to pass that allowance on to its public sector partners.

WSDA prepares a more detailed annual report on the status of these loans. Reports can be viewed at: agr.wa.gov/Bioenergy/EnergyFreedomLoanProgram.aspx.

Odessa Public Development Authority – Inland Empire Oilseeds



Employment: 20 full-time jobs, 12 part-time jobs, new opportunities for local agricultural producers

Environmental Benefits: Biodiesel production to displace diesel

Production: 3 million gal/yr biodiesel

The Odessa Public Development Authority partnered with Inland Empire Oilseeds LLC (IEO) on a \$10 million oilseed crushing and biodiesel refinery in Lincoln County. Ownership includes two farmer cooperatives working with their members to assess and support in-state oilseed crop production.

IEO began biodiesel production in November 2008, followed by oilseed crushing in July 2009, to become the state's first integrated biofuel refinery. Operations continued to improve and expand in early 2010, with IEO's high-quality fuel and meal enjoying great demand in regional markets.

Due to delays in certification of canola-based biodiesel under the federal Renewable Fuels Standard and uncertainty over the future of federal tax credits, IEO suspended most production in mid-2010 to focus on refinancing their operations. They expect to resume production in early 2011.

Washington State Department of Agriculture – Natural Selection Farms



Employment: Seven new jobs, new opportunities for local agricultural producers

Environmental Benefits: Oil for biodiesel production

Production: 500,000 gal/yr oil

Natural Selection Farms in Sunnyside is a \$1.3 million oilseed crushing facility producing oil for use in biodiesel production. In addition to growing and crushing its own canola and camelina crops, the project purchases a variety of oilseeds from throughout Washington State and the Northwest region, including sunflower, mustard and soybeans. Natural Selection Farms sells oil for biodiesel production and seed meal as feed to local dairies.

The oilseed crushing facility began operation in September 2006. Production at the facility has been variable, depending on marketplace economics. The project has used recent down time to make improvements to increase oil recovery, reduce handling costs and enhance operational efficiencies.

South Yakima Conservation District – George DeRuyter & Sons Farms



Employment: One new job

Environmental Benefits: Methane captured for renewable power production, fiber replacement for mined peat moss, odor reduction, and water quality protection

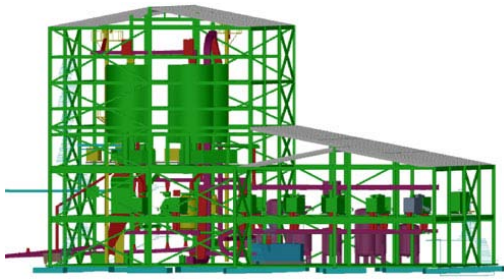
Production: 1.2 MW power, fiber

South Yakima Conservation District partnered with George DeRuyter & Sons Farms in Outlook on a \$5.1 million anaerobic digester that converts methane from the DeRuyters' 5,300 cow dairy farm into electricity.

In operation since November 2006, the DeRuyter digester has the potential to produce 1.2 megawatts of electricity, enough to power some 700 homes. The power is purchased by Pacific Power.

The project helps protect air and water quality, and sells digested fiber as a soil amendment and peat moss replacement. The liquid effluent from the digester provides nutrients for on-farm crop production.

Port of Warden – Home Grown Oil



Employment: Five part-time jobs, 35 new jobs once fully operational

Environmental Benefits: Biodiesel production to displace diesel

Production: 35-40 million gal/yr oil

The Port of Warden is partnered with Home Grown Oil LLC, dba Pacific Coast Canola (PCC), to construct a large oilseed crushing and biodiesel production facility in Grant County. In June 2007, PCC decided to complete the oilseed crush facility first, and make its oil available to other biodiesel processors until its own biodiesel production facility is operational.

The facility is designed to crush 1,200 tons of canola seed per day, yielding 35-40 million gallons of oil and 250,000 tons of canola meal.

Progress has been delayed as PCC works to complete project financing in early 2011. They hope to be up and running within 18 months.